its head and body. Thinking that the bear was dead he approached close to it and threw a stone. To his great surprise the bear was very much alive and angry and after a few very loud woofs ran off. I am sure that the Ravens were picking ticks off the bear. In Markhor areas there are hundreds of ticks, and when stalking Markhor, one has to go through a thorough de-ticking after returning to camp in the evening. I am sure the Brown Bear was enjoying the Ravens pecking away at the ticks.

NEDOU'S HOTEL,
GULMARG, SRINAGAR, COL. H. NEDOU
KASHMIR,
June 28, 1966.

4. THE IDENTIFICATION OF THE EGGS OF THE INDIAN HILL PARTRIDGES OF THE GENUS *ARBOROPHILA*

There are four species of Hill Partridge in the Indian Himalayan region. The Common Hill Partridge, *Arborophila torqueola*, occurs in temperate forest at higher altitudes from 4,000 to 10,000 ft. and over. The Rufousthroated Hill Partridge, *A. rufogularis*, occupies lower zones from about 2,000 to 8,000 ft., while the Whitecheeked Hill Partridge, *A. atrogularis* is present from the plains level up to 5,000 ft. The fourth species, the Redbreasted Hill Partridge, *A. mandellii*, is rarer than the other three and has been recorded from 1,000 to 8,000 ft. (Ripley 1961).

The eggs of these species in the collection of the British Museum (Natural History), which have been assembled from various sources, give the following size ranges—*A. torqueola*, length 43·5-45·5, breadth 33·3-33·7 (3 eggs measured; Whistler [1919] quoted a c/9 taken near Simla as having length 42·5-46, breadth 32·5-34); *A. rufogularis*, length 41·5-42·8, breadth 29·5-31 (19 eggs measured); and *A. atrogularis*, length 35·5-38·8, breadth 27·6-29·5 (17 eggs measured), all measuements being in millimetres. No eggs of *A. mandellii* were available.

These species vary in size and one can obtain some index of this from the wing-lengths. The following measurements were made—7 females of *A. torqueola* 138-146; 7 females of *A. rufogularis* 125-134;3 females of *A. atrogularis* 126-129; 3 females of *A. mandellii* 128-131. The males are consistently larger than the females in the first three species, but in *A. mandellii* the sexes are similar in size.

In view of the above differences in wing-length between the species involved one might expect some consistent differences in egg-size such as that quoted above, since this is usual in closely related species.

The egg-measurements given above conflict with those published by E. C. Stuart Baker (1935) and based on eggs in his collection which is now in the British Museum (Natural History). Baker claimed a complete overlap in egg-size. This is due to the inclusion of clutches which appear to have been wrongly identified. In addition some of Baker's clutches seem to be of composite origin. A clutch of eggs of *A. rufogularis* taken by C. Primrose at Kurseong, Bengal (B. M. reg. no. 1952. 11. 49) is accompanied by Primrose's original data slip on which an original clutch number of two eggs has been altered to a four. Only two of the eggs in the group of four bear Primrose's pencilled setmark, and it must be suspected that two clutches have been combined to make a clutch of four eggs. The clutch of seven eggs of *A. atrogularis* mentioned by Baker as the upper limit of clutch size in that species, consists of three large eggs with a rather tapering shape, three large and more rounded eggs, and one small egg. The first six are of a size more typical of *A. rufogularis* and are inscribed '18 May 1909' and the small egg is inscribed '18 May 1920'. Baker stated that he took this clutch himself and trapped the female on the nest, which he describes.

There are other anomalies in the dating of Baker's eggs. A clutch of six eggs of *A. rufogularis* (B. M reg. no. 1952. 11. 60), stated by Baker to have been collected on 27th May 1904, contains one egg inscribed 27.5.04, one inscribed 27.5.24, and four which appear to have been originally of the latter date but in which the 2 of the figure 24 has been altered to an 0 which still retains the tail of the figure 2. Similar alterations occur in two other clutches (B. M. reg. no. 1952. 11. 56-57).

There is therefore evidence that Baker's material is not completely reliable and it has been necessary to try and discriminate between authentic and unreliable material and to compile new data from the former. Although ultimately new field-work will be needed to confirm our conclusions, from the material available the following measurements, considered to be more accurate data, have been compiled.

A. torqueola (13 eggs measured): average 43·6×33·3; max. *44·7*×33·7, 43·2×*33·8*, min. *42·4*×*32·2*.

A. rufogularis (91 eggs measured): average 39·9×30·3; max. *43·8*×31·1, 39·1×*31·9*; min. 40·6×*28·3*, *37·6*×30·2.

A. atrogularis (42 eggs measured): average 37×28·3; max. *38·8*× 27·5, 36·5×*29·7*; min. *35*×27·3, 36·9×*27·1*.

The Museum has no authentic eggs of *A. mandellii*. Baker had a clutch of four eggs (B. M. reg. no. 1952. 11. 40) sent to him by Macdonald 'with remains of a skin which shows beyond doubt that this is a Hill Partridge either of this or a very closely allied race.'. This indicates that Baker was not certain of the identification, and while *A. mandellii* is closest to *A. rufogularis* in body size the four eggs would be large even for *A. torqueola*, measuring 44·2×34·7, 44·2×35, 42·6×33, 44·8×34·6.

BRITISH MUSEUM (NATURAL HISTORY),
CROMWELL ROAD,
LONDON S.W. 7,
September 2, 1966.

C. J. O. HARRISON
S. A. PARKER

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5. THE EGG-LAYING OF THE KOEL, *EUDYNAMYS SCOLOPACEA* (LINNAEUS)

In 1962 Dr. Sálim Ali, while going through the manuscript of my House Crow paper (Lamba 1963) commented regarding parasitization by the Koel: 'Is the koel's egg laid at any particular stage of the crow's clutch, i.e. after the 1st, 2nd, 3rd, or 4th egg of the crow? Ever in a newly completed empty nest?' At that time I was unable to deal with the points raised as I had not paid attention to this particular aspect during my studies on the nidification of the House Crow.

After my transfer to Poona in June 1964, I was able to pick up the threads of my studies on the breeding habits of the Koel, *Eudynamys scolopacea* (Linnaeus), in and around Poona, After making careful observations on scores of nests of *Corvus splendens* Vieillot and *Corvus macrorhynchos* Wagler, (the two species in whose nests the Koel normally lays) over a period of three breeding seasons during 1964-66, I find myself in a position to throw a little light on the subject.